# Tragulidae and Pecoran Ruminants from the latest Middle Miocene (Sarmatian) of the Styrian Basin (Austria)

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One of the very few localities from the Sarmatian *sensu stricto* in the Paratethys realm with a qualitatively and quantitatively rich vertebrate fauna is located near the town Gratkorn, at the northeastern realm of the Styrian Basin (Austria), near the Alpine escarpment. During a regression at the early to late Sarmatian intersection (Volhynian-Bessarabian-Intervall), continental gravels and soils have been deposited over marine sediments. Up to now, 62 vertebrate taxa are recorded from the paleosol of Gratkorn, which consequently hosts one of the richest and most complete terrestrial vertebrate faunas of that time period (12.2–12.0 Ma; Gross et al., in press). Besides many smaller mammals, reptiles, amphibians, fishes and some remains of birds, an interesting range of larger mammals including *Euprox furcatus*, *Micromeryx flourensianus*, and *Dorcatherium naui* was excavated. This is one of the rare records of *Dorcatherium naui* older than Pannonian and the oldest finding of *Dorcatherium naui* from the Paratethys realm so far. Up to now *Dorcatherium naui* of pre-Pannonian ages have only been described from Przeworno (Poland; Glazek et al., 1971), and Abocador de Can Mata (Vallès-Penedès Basin, Spain; Alba et al., 2011), which are of similar age as Gratkorn. Therefore, the latter does not only represent one of the oldest records of *Dorcatherium naui* but also supports the wide distribution of the taxon already at the latest Middle Miocene. Comparing Gratkorn (late Sarmatian) with localities nearby providing a comparable large mammal faunal richness, interesting aspects can be observed. At Gratkorn and St. Stefan/Lavanttal (Carinthia; early Sarmatian), *Dorcatherium* but no bovids were found so far (Gross et al., in press), whereas in contemporaneous sediments in the eastern Styrian Basin and in the Vienna Basin bovids are present, and in the Sarmatian sediments of the Vienna Basin even quite divers (Gross et al., in press). Both, the eastern Styrian Basin and the Vienna Basin are missing any *Dorcatherium* species (Gross et al., in press), though. By contrast, the early Pannonian locality of Atzelsdorf (Vienna Basin) provided abundant material of both groups (Hillenbrand et al., 2009). The segregative distribution of

*Dorcatherium* and bovids during the Sarmatian, and the following coexistence in Atzelsdorf, has most probably ecological and climatological reasons. Thus, with the material of Gratkorn previous ideas on ecological adaptations in *Dorcatherium* (Rössner, 2004) are supported and the understanding of the ecological niche of the "forest-dweller" *Dorcatherium* is specified. Besides new observations on the dispersal, evolution and ecology of *Dorcatherium*, the locality of Gratkorn enables a more detailed view on its species separation, which was in discussion in the past. By comparing the specimens from Gratkorn with material from Austria and the North Alpine Foreland Basin a clear distinction between *Dorcatherium crassum* and *Dorcatherium naui* can be drawn and enforces the taxonomic separation of the two species as accepted by several authors recently (e.g. Hillenbrand et al., 2009; Alba et al., 2011).

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